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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
KIMINORI TAMAI, ET AL.	: EXAMINER: MAZUMDAR
SERIAL NO: 10/614,518	:
FILED: JULY 8, 2003	: GROUP ART UNIT: 1791
FOR: FUNCTIONAL FILM	:

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313-1450

SIR:

This is an appeal from the Examiner's Rejection dated December 13, 2007, of Claims 9-12, 14-21 and 23-25. A Notice of Appeal was filed on April 14, 2008.

I. REAL PARTY IN INTEREST

The real party in interest is TDK Corporation of Tokyo, Japan, by virtue of the assignment recorded January 7, 2004, at Reel/Frame 014861/0581.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and their assignee are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

The appealed claims are Claims 9-12, 14-21 and 23-25. Claims 9-12, 14-21 and 23-25 stand rejected.

The status of Claims 9-12, 14-21 and 23-25 is "previously presented". The status of Claims 1-8, 13 and 22 is "canceled".

IV. STATUS OF AMENDMENTS

No Amendment in response to the Office Action of December 13, 2007, was filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

As claimed in **Claim 9**, the present application relates to a method for producing functional film, comprising:

applying a coating liquid having functional microparticulates dispersed therein onto a support, thereby forming a microparticulate-containing coating,

drying the microparticulate-containing coating,

compressing the microparticulate-containing coating at a temperature of 15 to 40°C, thereby forming a functional film comprising a compressed microparticulate-containing layer, and

transferring the functional film onto another support;

wherein the compressed microparticulate-containing layer does not have cracks and is capable of being drawn 10% without forming cracks; and

wherein the compressed microparticulate-containing layer does not comprise a resin as a binder.

See for example, pages 7-22 of the specification, in particular, page 11, lines 20-24, at page 25, line 12 to page 26, line 34, Table 1 and page 26, lines 28-29 of the specification and the claims as originally filed.

Claim 18 relates to a method for producing a functional film, comprising:

applying a coating liquid having functional microparticulates dispersed therein onto a support, thereby forming a microparticulate-containing coating,

drying the microparticulate-containing coating,

compressing the microparticulate-containing coating at a temperature of 15 to 40°C thereby forming a functional film comprising a compressed microparticulate-containing layer, and

transferring the functional film onto another support;

wherein the compressed microparticulate-containing layer is capable of being drawn 10% and in a 10% drawn state exhibits a surface resistivity which is at most 10 times greater than the surface resistivity prior to drawing; and

wherein the compressed microparticulate-containing layer does not comprise a resin as a binder.

See for example, pages 7-22 of the specification, in particular, page 11, lines 20-24, at page 25, line 12 to page 26, line 34, Table 1 and page 26, lines 28-29 of the specification and the claims as originally filed.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(A) Claims 9-12, 14-21 and 23-25 stand rejected under 35 U.S.C. § 103(a) over Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635).

VII. ARGUMENT

Ground (A)

Claims 9-12, 14-21 and 23-25 stand rejected under 35 U.S.C. § 103(a) over Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635). That rejection is untenable and should not be sustained.

Claims 9 and 18 are independent. Claims 10-12, 14-17 depend on Claim 9 and Claims 19-21 and 23-25 depend on Claim 18.

The present invention as set forth in **amended Claim 9** relates to a method for producing functional film, comprising:

applying a coating liquid having functional microparticulates dispersed therein onto a support, thereby forming a microparticulate-containing coating,

drying the microparticulate-containing coating,

compressing the microparticulate-containing coating at a temperature of 15 to 40°C, thereby forming a functional film comprising a compressed microparticulate-containing layer, and

transferring the functional film onto another support;

wherein the compressed microparticulate-containing layer does not have cracks and is capable of being drawn 10% without forming cracks; and

wherein the compressed microparticulate-containing layer does not comprise a resin as a binder.

The present invention as set forth in amended Claim 18 relates to a method for producing a functional film, comprising:

applying a coating liquid having functional microparticulates dispersed therein onto a support, thereby forming a microparticulate-containing coating,

drying the microparticulate-containing coating,

compressing the microparticulate-containing coating at a temperature of 15 to 40°C thereby forming a functional film comprising a compressed microparticulate-containing layer, and

transferring the functional film onto another support;

wherein the compressed microparticulate-containing layer is capable of being drawn 10% and in a 10% drawn state exhibits a surface resistivity which is at most 10 times greater than the surface resistivity prior to drawing; and

wherein the compressed microparticulate-containing layer does not comprise a resin as a binder.

Oka et al and Bilhorn fail to disclose or suggest a methods for producing functional film as claimed in Claims 9 and 18.

Oka clearly states in the abstract that the release film 1 coated with the functional untrafine particle layer 2 is laminated by press bonding to the coated transparent plastic substrate film 3 coated with the hard coat layer (resin composition coating) 4 so that the functional untrafine particle layer 2 faces the hard coat layer (resin composition coating) 4,

thereby causing part of the functional untrafine particles 5 to embedded in the hard coat layer (resin composition coating) 4. In other words, the functional untrafine particle layer 2 is compressed together with the release film 1, the hard coat layer 4 and the transparent plastic substrate film 3 so that part of the functional untrafine particles 5 is embedded in the hard coat layer (resin composition coating) 4. It is impossible to increase the packing density of the functional untrafine particles 5 in the functional untrafine particle layer 2 in Oka.

In contrast, in Claims 9 and 18, it is claimed that after forming a microparticulate-containing coating on a support and drying the microparticulate-containing coating, the microparticulate-containing coating is compressed together with the support, thereby forming a functional film comprising a compressed microparticulate-containing layer. Only the microparticulate-containing coating and the support are compressed at a compression step. (Afterwards, the functional film is transferred to another support.) As a result, it is possible to increase the packing density of the functional microparticulates in the microparticulate-containing layer. The packing density is increased due to the compression. Thus, contrary to the Examiner's statement in the paragraph bridging pages 2 and 3 of the Office Action of December 13, 2007, a specific packing density does not have to be claimed for this argument to be valid. However, the difference to Oka is that in Oka many layers are compressed (functional untrafine particle layer 2 is compressed together with the release film 1, the hard coat layer 4 and the transparent plastic substrate film 3) and as a result, the packing density of the functional untrafine particles 5 in the functional untrafine particle layer 2 cannot be increased.

In the present invention, only the microparticulate-containing coating is compressed.

Therefore, in the claimed invention, it is possible to form a microparticulate-containing layer free from cracks, which is capable of being drawn 10% without forming cracks and exhibiting a surface resistivity in a 10% drawn state which is at most 10 times

greater than the surface resistivity prior to drawing. On the other hand, in Oka, it is impossible to form the functional untrafine particle layer 2 free from cracks, capable of being drawn 10% without forming cracks and exhibiting a surface resistivity in a 10% drawn state which is at most 10 times greater than the surface resistivity prior to drawing.

Further, Bilhorn discloses a process comprising steps of coating a support 22 with a conductive coating 28 containing zinc oxide (which is illustrated as an example of the functional microparticulates in the present specification but containing no binder) to form a coating layer, drying the coating layer 28, placing a grid 32 on the surface of the coating layer 28 and passing the coating layer 28 and the grid 32 placed on the surface thereof into a pressure nip 35, thereby compressing them to firmly embed the grid 32 in the coating layer 28.

However, in Bilhorn, when the conductive coating 28 is to be compressed by the pressure nip 35, the grid 32 is placed on the surface of the conductive coating 28 and since the conductive coating 28 and the grid 32 are compressed by the pressure nip 35 so that the grid 32 is firmly embedded in the conductive coating 28, **only regions of the conductive coating 28 on the surface of which the grid 32 is placed are compressed by the pressure nip 35**.

Therefore, while it may be possible to increase the packing density of zinc oxide particles in the regions of the conductive coating 28 on the surface of which the grid 32 is placed but it is impossible to increase the packing density of zinc oxide particles in other regions of the conductive coating 28 of Bilhorn. Even if the conductive coating 28 in Bilhorn is compressed by the pressure nip 35, it is impossible to form the compressed conductive coating 28 free from cracks, capable of being drawn 10% without forming cracks and exhibiting a surface resistivity in a 10% drawn state which is at most 10 times greater than the surface resistivity prior to drawing.

Thus, Claims 9 and 18 are not obvious over Oka in view of Bilhorn.

The dependent claims:

Since Claims 9 and 18 are not obvious over Oka in view of Bilhorn, dependent Claims 10-12, 14-17, 19-21 and 23-25 are not obvious over Oka in view of Bilhorn. Thus, each of the dependent Claims are independently patentable.

Claim 10:

Claim 10 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest that in the method according to claim 9, the functional film before said transferring has a film strength as measured by a 90° peel test of at least 6 N/12 mm. Thus, Claim 10 not obvious over Oka in view of Bilhorn.

Claim 11:

Claim 11 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 9 discussed above, combined with the features of Claim 11, namely: forming an adhesive layer on said functional film before said transferring of said functional film to another support. Thus, Claim 11 not obvious over Oka in view of Bilhorn.

Claim 12:

Claim 12 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 9

discussed above, combined with the features of Claim 12, namely: the other support to which the functional film is transferred comprises a member selected from the group consisting of a glass, a resin, and a ceramic. Thus, Claim 12 not obvious over Oka in view of Bilhorn.

Claim 14:

Claim 14 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 9 discussed above, combined with the features of Claim 14, namely: the microparticulate-containing layer is at least one selected from the group consisting of a conductive film, magnetic film, ferromagnetic film, dielectric film, ferroelectric film, electrochromic film, electroluminescent film, insulating film, light-absorbing film, selective light-absorbing film, reflective film, anti-reflection film, catalyst film and photocatalyst film. Thus, Claim 14 not obvious over Oka in view of Bilhorn.

Claim 15:

Claim 15 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 9 discussed above, combined with the features of Claim 15, namely: the microparticulates are conductive. Thus, Claim 15 not obvious over Oka in view of Bilhorn.

Claim 16:

Claim 16 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claims 9 discussed above, and Claim 15 combined with the features of Claim 16, namely: the conductive microparticulates comprise at least one component selected from the group

consisting of tin oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide, fluorine-doped tin oxide, tin-doped indium oxide and aluminum-doped zinc oxide. Thus, Claim 16 not obvious over Oka in view of Bilhorn.

Claim 17:

Claim 17 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 9 discussed above, combined with the features of Claim 17, namely: the functional microparticulates have an average primary particle diameter of up to 10 μm. Thus, Claim 17 not obvious over Oka in view of Bilhorn.

Claim 19:

Claim 19 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 18 discussed above, combined with the features of Claim 19, namely: the functional film before said transferring has a film strength as measured by a 90° peel test of at least 6 N/12 mm. Thus, Claim 19 not obvious over Oka in view of Bilhorn.

Claim 20:

Claim 20 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 18 discussed above, combined with the features of Claim 20, namely: forming an adhesive layer on said functional film before said transferring of said functional film to another support. Thus, Claim 20 not obvious over Oka in view of Bilhorn.

Claim 21:

Claim 21 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 18 discussed above, combined with the features of Claim 21, namely: the other support to which the functional film is transferred comprises a member selected from the group consisting of a glass, a resin, and a ceramic. Thus, Claim 21 not obvious over Oka in view of Bilhorn.

Claim 23:

Claim 23 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 18 discussed above, combined with the features of Claim 23, namely: the microparticulate-containing layer is at least one selected from the group consisting of a conductive film, magnetic film, ferromagnetic film, dielectric film, ferroelectric film, electrochromic film, electroluminescent film, insulating film, light-absorbing film, selective light-absorbing film, reflective film, anti-reflection film, catalyst film and photocatalyst film. Thus, Claim 23 not obvious over Oka in view of Bilhorn.

Claim 24:

Claim 24 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 18 discussed above, combined with the features of Claim 24, namely: the conductive microparticulates comprise at least one component selected from the group consisting of tin oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide, fluorine-doped tin oxide, tin-doped indium oxide and aluminum-doped zinc oxide. Thus, Claim 24 not obvious over Oka in view of Bilhorn.

Claim 25:

Claim 25 is separately patentable because Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635), alone or in combination, fail to disclose or suggest the features of Claim 18 discussed above, combined with the features of Claim 25, namely: the functional microparticulates have an average primary particle diameter of up to 10 μm. Thus, Claim 25 not obvious over Oka in view of Bilhorn.

Thus, Claims 9-12, 14-21 and 23-25 are Not Obvious over Oka et al (US 5,976,297) in view of Bilhorn (US 4,197,635) within the meaning of 35 U.S.C. §103(a). For all the above reasons, it is respectfully requested that this rejection be REVERSED.

CONCLUSION

For the above reasons, it is respectfully requested that all the rejections still pending be REVERSED.

Respectfully submitted,

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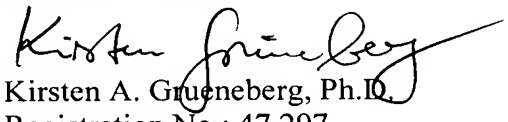

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VIII. CLAIMS APPENDIX

Claim 9: A method for producing functional film, comprising:

applying a coating liquid having functional microparticulates dispersed therein onto a support, thereby forming a microparticulate-containing coating,

drying the microparticulate-containing coating,

compressing the microparticulate-containing coating at a temperature of 15 to 40°C, thereby forming a functional film comprising a compressed microparticulate-containing layer, and

transferring the functional film onto another support;

wherein the compressed microparticulate-containing layer does not have cracks and is capable of being drawn 10% without forming cracks; and

wherein the compressed microparticulate-containing layer does not comprise a resin as a binder.

Claim 10: The method according to claim 9, wherein said functional film before said transferring has a film strength as measured by a 90° peel test of at least 6 N/12 mm.

Claim 11: The method according to claim 9, further comprising forming an adhesive layer on said functional film before said transferring of said functional film to another support.

Claim 12: The method according to claim 9, wherein said other support to which the functional film is transferred comprises a member selected from the group consisting of a glass, a resin, and a ceramic.

Claim 14: The method according to claim 9, wherein said microparticulate-containing layer is at least one selected from the group consisting of a conductive film, magnetic film, ferromagnetic film, dielectric film, ferroelectric film, electrochromic film, electroluminescent film, insulating film, light-absorbing film, selective light-absorbing film, reflective film, anti-reflection film, catalyst film and photocatalyst film.

Claim 15: The method according to claim 9, wherein said microparticulates are conductive.

Claim 16: The method according to claim 15, wherein said conductive microparticulates comprise at least one component selected from the group consisting of tin oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide, fluorine-doped tin oxide, tin-doped indium oxide and aluminum-doped zinc oxide.

Claim 17: The method according to claim 9, wherein said functional microparticulates have an average primary particle diameter of up to 10 μm.

Claim 18: A method for producing a functional film, comprising:

applying a coating liquid having functional microparticulates dispersed therein onto a support, thereby forming a microparticulate-containing coating,

drying the microparticulate-containing coating,

compressing the microparticulate-containing coating at a temperature of 15 to 40°C thereby forming a functional film comprising a compressed microparticulate-containing layer, and

transferring the functional film onto another support;

wherein the compressed microparticulate-containing layer is capable of being drawn 10% and in a 10% drawn state exhibits a surface resistivity which is at most 10 times greater than the surface resistivity prior to drawing; and

wherein the compressed microparticulate-containing layer does not comprise a resin as a binder.

Claim 19: The method according to claim 18, wherein said functional film before said transferring has a film strength as measured by a 90° peel test of at least 6 N/12 mm.

Claim 20: The method according to claim 18, further comprising forming an adhesive layer on said functional film before said transferring of said functional film to another support.

Claim 21: The method according to claim 18, wherein said other support to which the functional film is transferred comprises a member selected from the group consisting of a glass, a resin, and a ceramic.

Claim 23: The method according to claim 18, wherein said microparticulate-containing layer is at least one selected from the group consisting of a conductive film, magnetic film, ferromagnetic film, dielectric film, ferroelectric film, electrochromic film, electroluminescent film, insulating film, light-absorbing film, selective light-absorbing film, reflective film, anti-reflection film, catalyst film and photocatalyst film.

Claim 24: The method according to claim 18, wherein said conductive microparticulates comprise at least one component selected from the group consisting of tin

oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide, fluorine-doped tin oxide, tin-doped indium oxide and aluminum-doped zinc oxide.

Claim 25: The method according to claim 18, wherein said functional microparticulates have an average primary particle diameter of up to 10 μm.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.